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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/580,797	05/26/2006	Alain Guillard	Serie 6423	7256
Linda K Sussell Air Liquide Intellectual Property Department 2700 Post Oak Blvd Ste 1800 Houston, TX 77056				
7550 04/29/2010			EXAMINER HAMO, PATRICK	
			ART UNIT 3746	PAPER NUMBER
			MAIL DATE 04/29/2010	DELIVERY MODE PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

**Advisory Action  
Before the Filing of an Appeal Brief**

<b>Application No.</b> 10/580,797	<b>Applicant(s)</b> GUILLARD ET AL.
<b>Examiner</b> PATRICK HAMO	<b>Art Unit</b> 3746

**--The MAILING DATE of this communication appears on the cover sheet with the correspondence address --**

THE REPLY FILED 16 April 2010 FAILS TO PLACE THIS APPLICATION IN CONDITION FOR ALLOWANCE.

1. ☒ The reply was filed after a final rejection, but prior to or on the same day as filing a Notice of Appeal. To avoid abandonment of this application, applicant must timely file one of the following replies: (1) an amendment, affidavit, or other evidence, which places the application in condition for allowance; (2) a Notice of Appeal (with appeal fee) in compliance with 37 CFR 41.31; or (3) a Request for Continued Examination (RCE) in compliance with 37 CFR 1.114. The reply must be filed within one of the following time periods:

- a) ☐ The period for reply expires \_\_\_\_\_ months from the mailing date of the final rejection.  
b) ☒ The period for reply expires on: (1) the mailing date of this Advisory Action, or (2) the date set forth in the final rejection, whichever is later. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of the final rejection.  
Examiner Note: If box 1 is checked, check either box (a) or (b). ONLY CHECK BOX (b) WHEN THE FIRST REPLY WAS FILED WITHIN TWO MONTHS OF THE FINAL REJECTION. See MPEP 706.07(f).

Extensions of time may be obtained under 37 CFR 1.136(a). The date on which the petition under 37 CFR 1.136(a) and the appropriate extension fee have been filed is the date for purposes of determining the period of extension and the corresponding amount of the fee. The appropriate extension fee under 37 CFR 1.17(a) is calculated from: (1) the expiration date of the shortened statutory period for reply originally set in the final Office action; or (2) as set forth in (b) above, if checked. Any reply received by the Office later than three months after the mailing date of the final rejection, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**NOTICE OF APPEAL**

2. ☐ The Notice of Appeal was filed on \_\_\_\_\_. A brief in compliance with 37 CFR 41.37 must be filed within two months of the date of filing the Notice of Appeal (37 CFR 41.37(a)), or any extension thereof (37 CFR 41.37(e)), to avoid dismissal of the appeal. Since a Notice of Appeal has been filed, any reply must be filed within the time period set forth in 37 CFR 41.37(a).

**AMENDMENTS**

3. ☐ The proposed amendment(s) filed after a final rejection, but prior to the date of filing a brief, will not be entered because  
(a) ☐ They raise new issues that would require further consideration and/or search (see NOTE below);  
(b) ☐ They raise the issue of new matter (see NOTE below);  
(c) ☐ They are not deemed to place the application in better form for appeal by materially reducing or simplifying the issues for appeal; and/or  
(d) ☐ They present additional claims without canceling a corresponding number of finally rejected claims.

NOTE: \_\_\_\_\_. (See 37 CFR 1.116 and 41.33(a)).

4. ☐ The amendments are not in compliance with 37 CFR 1.121. See attached Notice of Non-Compliant Amendment (PTOL-324).  
5. ☐ Applicant's reply has overcome the following rejection(s): \_\_\_\_\_.  
6. ☐ Newly proposed or amended claim(s) \_\_\_\_\_ would be allowable if submitted in a separate, timely filed amendment canceling the non-allowable claim(s).  
7. ☐ For purposes of appeal, the proposed amendment(s): a) ☐ will not be entered, or b) ☐ will be entered and an explanation of how the new or amended claims would be rejected is provided below or appended.  
The status of the claim(s) is (or will be) as follows:  
Claim(s) allowed: \_\_\_\_\_.  
Claim(s) objected to: \_\_\_\_\_.  
Claim(s) rejected: \_\_\_\_\_.  
Claim(s) withdrawn from consideration: \_\_\_\_\_.

**AFFIDAVIT OR OTHER EVIDENCE**

8. ☐ The affidavit or other evidence filed after a final action, but before or on the date of filing a Notice of Appeal will not be entered because applicant failed to provide a showing of good and sufficient reasons why the affidavit or other evidence is necessary and was not earlier presented. See 37 CFR 1.116(e).  
9. ☐ The affidavit or other evidence filed after the date of filing a Notice of Appeal, but prior to the date of filing a brief, will not be entered because the affidavit or other evidence failed to overcome all rejections under appeal and/or appellant fails to provide a showing a good and sufficient reasons why it is necessary and was not earlier presented. See 37 CFR 41.33(d)(1).  
10. ☐ The affidavit or other evidence is entered. An explanation of the status of the claims after entry is below or attached.

**REQUEST FOR RECONSIDERATION/OTHER**

11. ☒ The request for reconsideration has been considered but does NOT place the application in condition for allowance because:  
See Continuation Sheet.  
12. ☐ Note the attached Information Disclosure Statement(s). (PTO/SB/08) Paper No(s). \_\_\_\_\_.  
13. ☐ Other: \_\_\_\_\_.

/Devon C Kramer/  
Supervisory Patent Examiner, Art Unit 3746

Continuation of 11. does NOT place the application in condition for allowance because: The rejections as discussed in the final Office action dated 1 March 2010 are maintained. There are three reasons, discussed in the prior rejection, that leads the examiner to maintain this rejection. First, Barchas discloses three coolers after the final stage whereas there is only one cooler after the other stages. Barchas is silent as to the specifications of the coolers, but as shown in the figure, each cooler is impliedly substantially the same. Therefore, if each cooler is the same make and model, the pressure drop through the cooler system after the final stage comprising three of the coolers of the preceding stages would be higher than the pressure drop through just one cooler. The second reason is that Kaellis teaches that cooler design is a matter of trade off between pressure drop and cooling efficiency, and that this is well known in the art. The examiner contends that this information in combination with the implied teaching of Barchas that there are more coolers after the final stage would lead one of ordinary skill in the art to the conclusion that it was obvious that Barchas intended a higher pressure drop through the final stages, and that is why he provided three coolers whereas only one stage after each previous one, with the knowledge of cooler trade offs. It would have at least been obvious to one of ordinary skill in the art that this would be the outcome of Barchas's invention, if not the intention. The last reason, which the applicant focuses most of the arguments on, is that the pressure drop would be higher through the final stage because of the higher pressure in this stage. The examiner does not contend, as applicant argues, that the higher pressure in the stage causes a higher pressure drop, but simply that the higher pressure would accommodate a higher pressure drop, so that one skilled in the art would be able to trade off some pressure drop for cooler efficiency. The examiner is prepared to accept that this is not necessarily true, and that as applicant contends one of ordinary skill in the art would like to preserve all the pressure buildup, but it would at least be obvious to one of ordinary skill that how much pressure drop is sacrificed is a design choice based on the desired cooler efficiency. Even so, at least the first two reasons for obviousness combine to make the present application unpatentable over Barchas in view of Kaellis.